Clinical Practice Guidelines for Heart Failure with Algorithms

Adopted: October 12, 2010

Revised/Approved: 10/12, 10/16

Next Review Date: 10/18

Purpose:

Scott & White Health Plan's (SWHP) Heart Failure Guidelines are designed to improve the management of cardiovascular disease through the use of high quality, personalized, comprehensive health care and to minimize any further progression of the disease state.

Scope:

The assessment, management, treatment, and evaluation of members with heart failure

Guideline:

Scott and White Health Plan (SWHP) has adopted the "2013 ACC/AHA Guideline for the Management of Heart Failure" published in both 2013 Circulation 128 and the 2013 Journal of The American College of Cardiology 62(16) along with the "2016 ACC/AHA/HSFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure" as published in the 2016 Journal of Cardiac Failure 22(9).

History and Physical Examination. (Yance et al., 2013, p. e161)

Class 1.

1. A thorough history and physical examination should be obtained/performed in patients presenting with heart failure (HF) to identify cardiac and non-cardiac disorders or behaviors that might cause or accelerate the development or progression of HF. (Level of Evidence: C)
2. In patients with idiopathic dilated cardiomyopathy (DCM), a 3-generational family history should be obtained to aid in establishing the diagnosis of familial DCM. (Level of Evidence: C)
3. Volume status and vital signs should be assessed at each patient encounter. This includes serial assessment of weight, as well as estimates of jugular venous pressure and the presence of peripheral edema or orthopnea. (Level of Evidence: B)

Diagnostic Testing Recommendations. (Yance et al., 2013, p. e163)

Class 1.

1. Initial laboratory evaluation of patients presenting with HF should include complete blood count, urinalysis, serum electrolytes (including calcium and magnesium), blood urea nitrogen, serum creatinine, glucose, fasting lipid profile, liver function tests, and thyroid-stimulating hormone. (Level of Evidence: C)
2. 2. Serial monitoring, when indicated, should include serum electrolytes and renal function. (Level of Evidence: C)
3. A 12-lead ECG should be performed initially on all patients presenting with HF. (Level of Evidence: C)

Class IIa

1. Screening for hemochromatosis or HIV is reasonable in selected patients who present with HF. (Level of Evidence: C)
2. Diagnostic tests for rheumatologic diseases, amyloidosis, or pheochromocytoma are reasonable in patients presenting with HF in whom there is a clinical suspicion of these diseases. (Level of Evidence: C)

Recommendations for Noninvasive Cardiac Imaging. (Yance et al., 2013, p. e165)

Recommendations	COR	LOE
Patients with suspected, acute, or new-onset HF should undergo a chest x-ray	I	C
A 2-dimensional echocardiogram with Doppler should be performed for initial evaluation of HF	I	C
Repeat measurement of EF is useful in patients with HF who have had a significant change in clinical status or received treatment that might affect cardiac function or for consideration of device therapy	I	C
Noninvasive imaging to detect myocardial ischemia and viability is reasonable in HF and CAD	IIa	C
Viability assessment is reasonable before revascularization in HF patients with CAD	IIa	B (281–285)
Radionuclide ventriculography or MRI can be useful to assess LVEF and volume	IIa	C
MRI is reasonable when assessing myocardial infiltration or scar	IIa	B (286–288)
Routine repeat measurement of LV function assessment should not be performed	III: No Benefit	B (289,290)

CAD indicates coronary artery disease; COR, Class of Recommendation; EF, ejection fraction; HF, heart failure; LOE, Level of Evidence; LV, left ventricular; LVEF, left ventricular ejection fraction; and MRI, magnetic resonance imaging.

Recommendations for Invasive Evaluation. (Yance et al., 2013, p. e167)

Recommendations	COR	LOE
Monitoring with a pulmonary artery catheter should be performed in patients with respiratory distress or impaired systemic perfusion when clinical assessment is inadequate	I	C
Invasive hemodynamic monitoring can be useful for carefully selected patients with acute HF with persistent symptoms and/or when hemodynamics are uncertain	IIa	C
When ischemia may be contributing to HF, coronary arteriography is reasonable	IIa	C
Endomyocardial biopsy can be useful in patients with HF when a specific diagnosis is suspected that would influence therapy	IIa	C
Routine use of invasive hemodynamic monitoring is not recommended in normotensive patients with acute HF	III: No Benefit	B (305)
Endomyocardial biopsy should not be performed in the routine evaluation of HF	III: Harm	C

COR indicates Class of Recommendation; HF, heart failure; and LOE, Level of Evidence.

Classification of Heart Failure.

New York Heart Association Functional Classification (NHYA). Depending upon the degree to which symptoms of angina pain and shortness limit physical activity, the extent of the patient's HF is classified into one of the following 4 NHYA Classes:

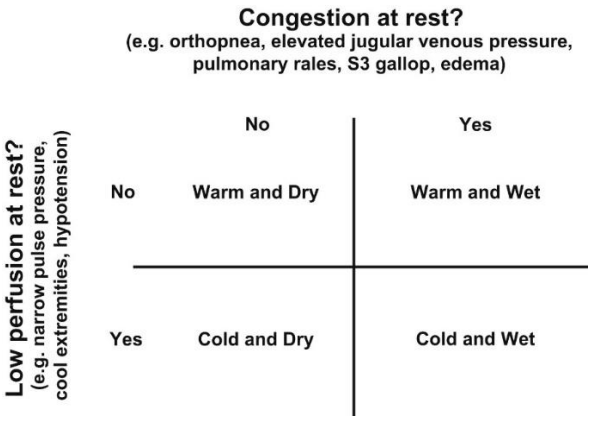
Class I. Patient does not complain of any limitations with ordinary physical activities.

Class II. Patient reports tiredness or shortness of breath with everyday activities such as walking or bending over but is comfortable at rest.

Class III. Patient reports definite limitations such as undue fatigue with almost any activity. Patient may complain of angina, dyspnea, fatigue, &/or palpitations.

Class IV. Patient reports an inability to do virtually any physical activity without significant discomfort. There may also significant signs/symptoms of cardiac problems while the patient is at rest.

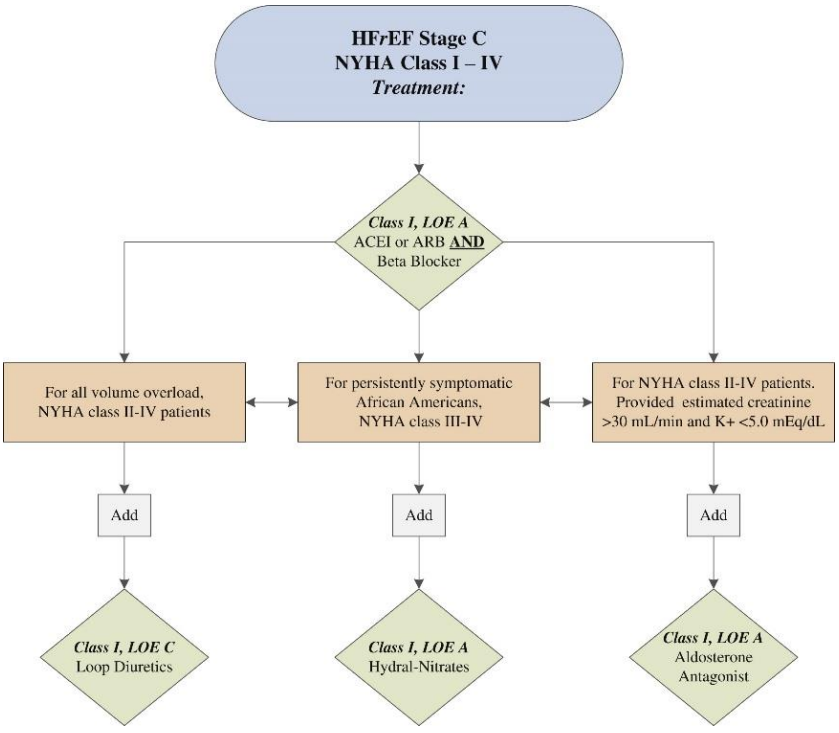
Classification of Patients Presenting with Acutely Decompensated Heart Failure.



"Classification of patients presenting with acutely decompensated heart failure." (Yance et al., 2013, p. e194)

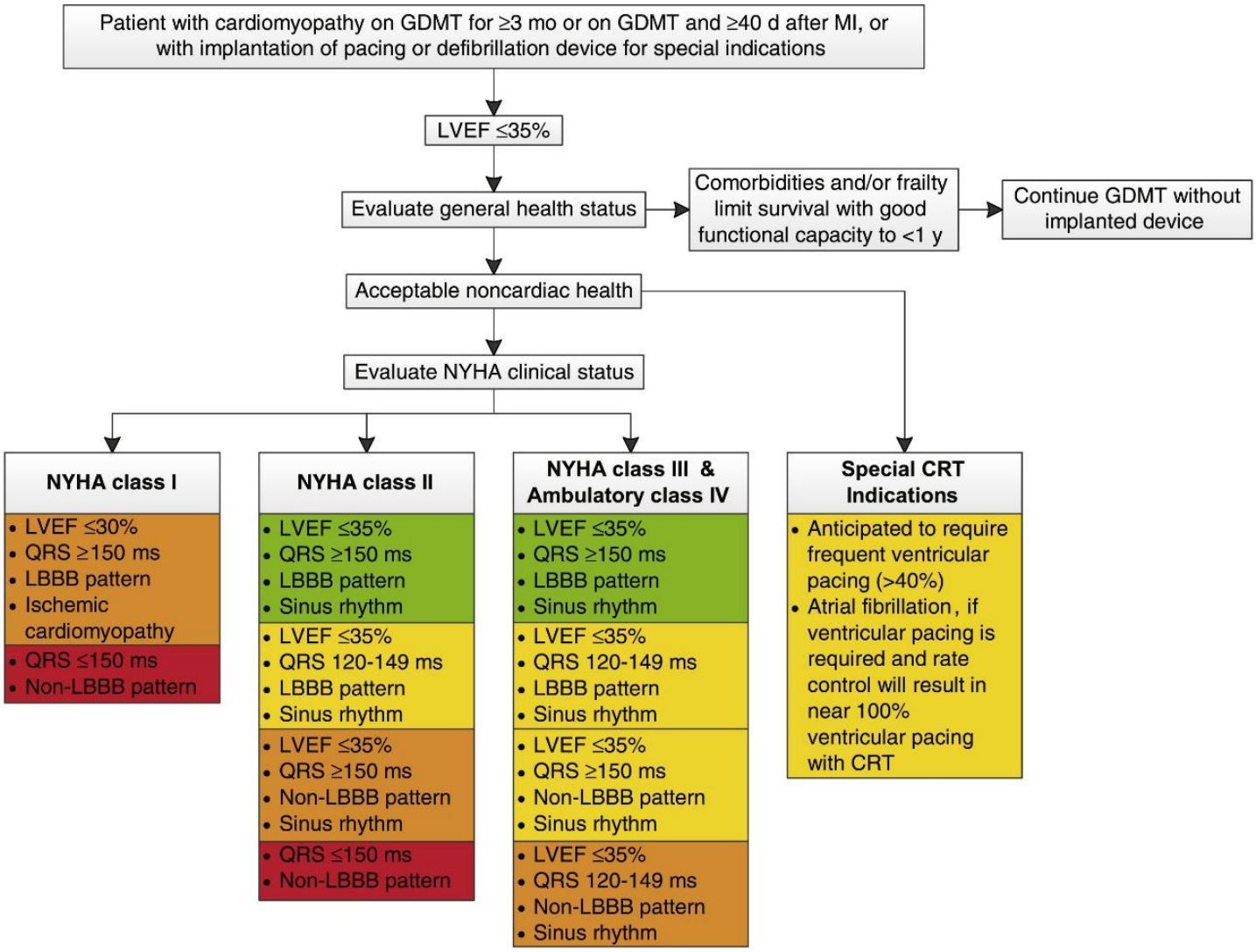
Recommendations for the Treatment of Heart Failure.

Stage C HFrEF: evidence-based, guideline-directed medical therapy



"Stage C HFrEF: evidence-based, guideline-directed medical therapy. ACEI indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin-receptor blocker; HFrEF, heart failure with reduced ejection fraction; Hydral-Nitrates, hydralazine and isorbide dinitrate; LOE, Level of Evidence; and NYHA, New York Heart Association." (Yance, MD, MSc, FACC, FAHA et al., 2013, p. e173)

Indications for CRT therapy algorithm.

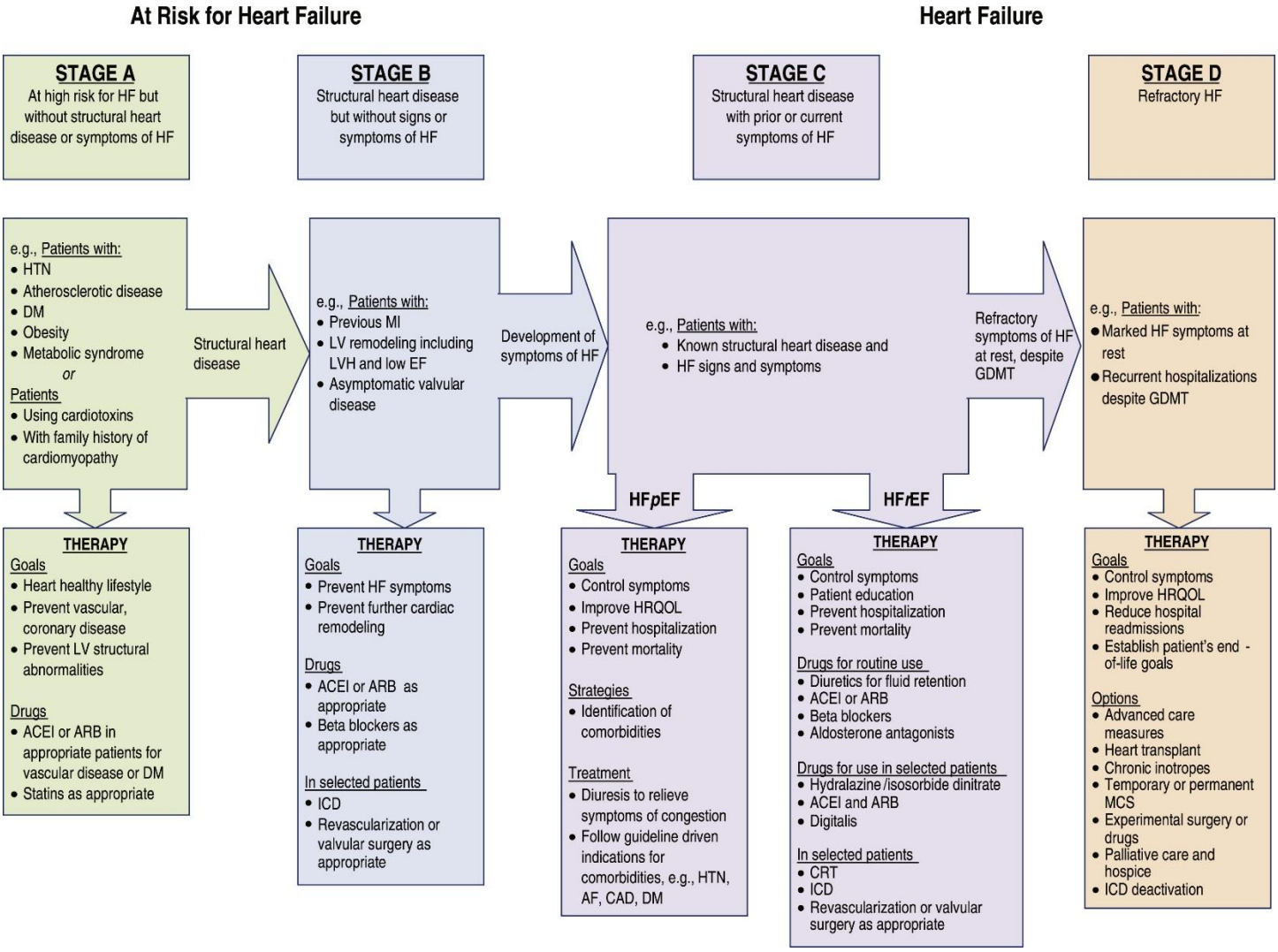


Colors correspond to the class of recommendations in the ACCF/AHA Table 1.

Benefit for NYHA class I and II patients has only been shown in CRT-D trials, and while patients may not experience immediate symptomatic benefit, late remodeling may be avoided along with long-term HF consequences. There are no trials that support CRT-pacing (without ICD) in NYHA class I and II patients. Thus, it is anticipated these patients would receive CRT-D unless clinical reasons or personal wishes make CRT-pacing more appropriate. In patients who are NYHA class III and ambulatory class IV, CRT-D may be chosen but clinical reasons and personal wishes may make CRT-pacing appropriate to improve symptoms and quality of life when an ICD is not expected to produce meaningful benefit in survival.

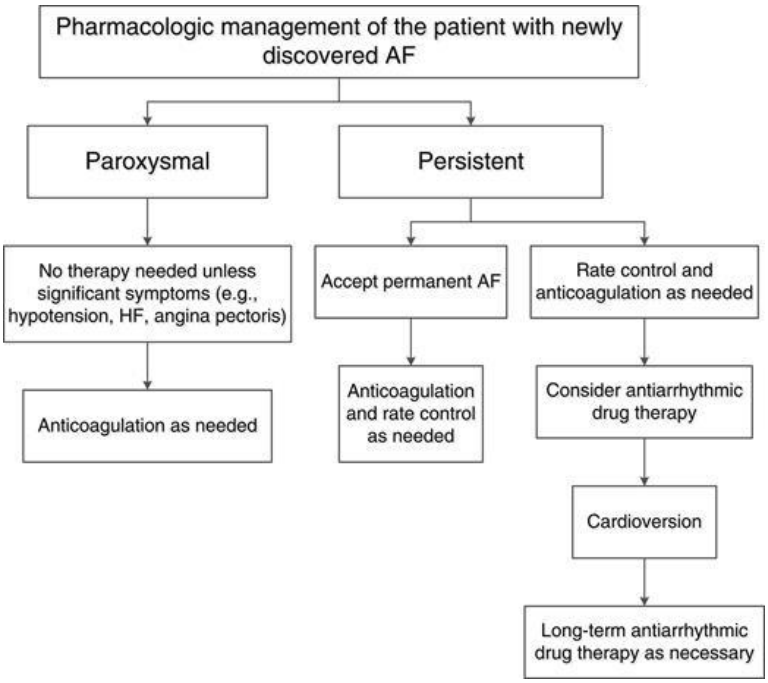
"Indications for CRT therapy algorithm. CRT indicates cardiac resynchronization therapy; CRT-D, cardiac resynchronization therapy-defibrillator; GDMT, guideline-directed medical therapy; HF, heart failure; ICD, implantable cardioverter-defibrillator; LBB, left bundle-branch block; LVEF, left ventricular ejection fraction; MI, myocardial infarction; and NYHA, New York Heart Association." (Yance, et al., 2013, p. e187)

Stages in the development of HF and recommended therapy by stage.



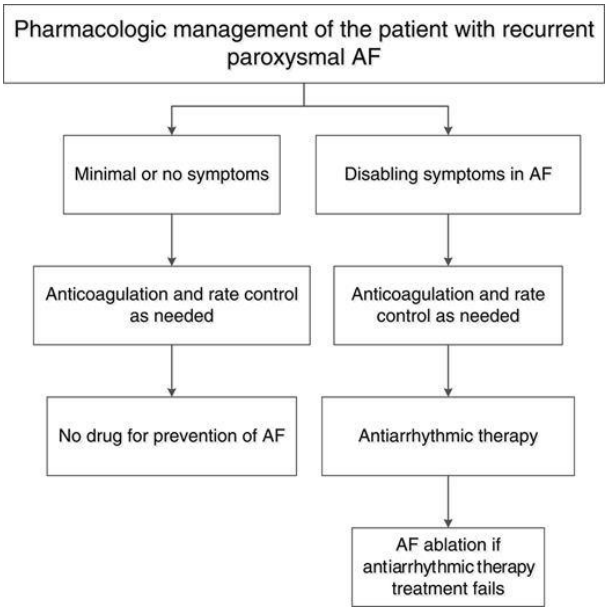
"Stages in the development of HF and recommended therapy by stage. ACEI indicates angiotensin-converting enzyme inhibitor; AF, atrial fibrillation; ARB, angiotensin-receptor blocker; CAD, coronary artery disease; CRT, cardiac resynchronization therapy; DM, diabetes mellitus; EF ejection fraction; GDMT, guideline-directed medical therapy; HT, heart failure; HF*p*EF, heart failure with preserved ejection fraction; HF*r*EF, heart failure with reduced ejection fraction; HRQOL, health-related quality of life; HTN, hypertension; ICD, implantable cardioverter-defibrillator; LV, left ventricular; LVH, left ventricular hypertrophy; MCS, mechanical circulatory support; and ME, myocardial infarction." (Yance et al., 2013, p. e193)

Pharmacological management of patients with newly discovered AF.



"Pharmacological management of patients with newly discovered AF. AF indicates atrial fibrillation; and HF, heart failure." (Yance et al., 2013, p. e202)

Pharmacological management of patients with recurrent paroxysmal AF.



"Pharmacological management of patients with recurrent paroxysmal AF. AF indicates atrial fibrillation." (Yance et al., 2013, p. e202)

Source(s):

Yance, MD, MSc, FACC, FAHA, C. W., Jessup, MD, FACC, FAHA, M., Bozkurt, MD, PhD, FACC, FAHA, B., Butler, MBBS, FACC, FAHA, J., Casey, MD, MPH, MBA, FACP, FAHA, D. E., Drazner, MD, MSc, FACC, FAHA, M. H., … Wilkoff, MD, FACC, FHRS, B. L. (2013). 2013 ACCF/AHA Guideline for the Management of Heart Failure; A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*, *62*(16), e147-e239. doi:10.1016/j.jacc.2013.05.019

Yance, C. W., Jessup, M., Bozkurt, B., Butler, J., Casey, D. E., Drazner, M. H., … Wilkoff, B. L. (2013). 2013 ACCF/AHA Guideline for the Management of Heart Failure; A Report of the American College of Cardiology Foundation / American Heart Association Task Force on Practice Guidelines. *Circulation*, *128. 000-000.* doi: http://dx.doi.org/10.1161/CIR.0b013e31829e8776

Yancey, MD, MSc, MACC, FAHA, FHFSA, C. W., Jessup, MD, FAHA, FESC, M., Bozkurt, MD, PhD, FACC, FAHA, B., Butler, MD, MBA, MHP, FACC, FAHA, J., Casey Jr., MD, MPH, MBA, FACC, D. E., Colvin, MD, FAHA, M. M., … Wijeysundera, MD, PhD, D. N. (2016). 2016 ACC/AHA/HFSA Focused Update on New Pharmacological Therapy for Heart Failure: An Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure; A Report of the American College of Cardiology / American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *Journal of Cardiac Failure*, *22*(9), 659-669. Retrieved from http://dx.doi.org/10.1016/j.cardfail.2016.07.001

Developed by: Physicians from the Department of Cardiology.

Reviewed and Approved by: Members of the Quality Improvement Sub-committee.